

What is claimed is:

1. A method of detecting and measuring cardiac contractile functions using a signal representative of cardiac wall motion provided by an acceleration sensor, said method comprising the steps of:
 - introducing said acceleration sensor unit into a vein of a cardiac wall;
 - positioning said acceleration sensor unit in said vein of said cardiac wall in a manner such that said acceleration sensor unit responds to movement of said cardiac wall and provides said signal representative of cardiac wall movement; and
 - connecting said acceleration sensor unit to an electronic device.
2. The method of claim 1, further comprising the step of removing said acceleration sensor from said vein of said cardiac wall.
3. The method of claim 1, wherein said vein of said cardiac wall is the coronary sinus vein.
4. The method of claim 1, wherein said electronic device is an implantable cardiac resynchronization device.
5. The method of claim 1, wherein the step of introducing said acceleration sensor unit into said vein of said cardiac wall comprises the steps of introducing an implantable lead into said vein of said cardiac wall and inserting said acceleration sensor unit along an inner lumen of said implantable lead.

6. The method of claim 5, further comprises the step of removing said acceleration sensor from said vein of said cardiac wall.

7. A method of detecting and measuring cardiac contractile functions of a heart using a signal representative of cardiac wall motion provided by an acceleration sensor, said method comprising the steps of:
- inserting a guide element along an inner lumen of an implantable lead;
 - introducing said implantable lead into said heart;
 - positioning said implantable lead within said heart using said guide element;
 - removing said guide element from said inner lumen of said implantable lead; and
 - subsequent to removing said guide element, inserting said acceleration sensor unit along said inner lumen of said implantable lead.
8. The method of claim 7, further comprising the step of removing said acceleration sensor from said inner lumen of said implantable lead.
9. The method of claim 7, further comprising the step of connecting said implantable lead and said acceleration sensor unit to an electronic device.
10. The method of claim 7, wherein said implantable lead includes one or more electrodes.
11. The method of claim 10, wherein said acceleration sensor unit is disposed adjacent to said electrodes.
12. The method of claim 7, wherein said implantable lead is positioned within a vein of a cardiac wall of said heart.

13. The method of claim 7, wherein said implantable lead is directly attached to a cardiac wall of said heart.

14. A method of creating a sensor for detecting and measuring cardiac contractile function, said method comprising the steps of:
- inserting a cardiac motion sensor along an inner lumen of an implantable lead; and
 - positioning said cardiac motion sensor within said inner lumen of said implantable lead such that said cardiac motion sensor remains mobile relative to the longitudinal axis of said implantable lead.
15. The method of claim 14, further comprising the step of removing said cardiac motion sensor from said inner lumen of said implantable lead.
16. The method of claim 14, wherein said cardiac motion sensor comprises an accelerometer.
17. The method of claim 14, wherein prior to inserting said cardiac motion sensor along said inner lumen of said implantable lead, said method further comprises the steps of:
- connecting a conductor to said cardiac motion sensor;
 - passing said conductor through said inner lumen of said implantable lead; and
 - connecting said conductor to an electrical device such that said conductor fixes said cardiac motion sensor relative to the longitudinal axis of said lead.
18. The method of claim 17, further comprising the step of removing said cardiac motion sensor from said inner lumen of said implantable lead.
19. The method of claim 14, wherein prior to inserting said cardiac motion sensor along said inner lumen of said implantable lead, said method further comprises the steps of:

inserting a guide element along the inner lumen of said implantable lead;
introducing said implantable lead into a vein of a cardiac wall;
positioning said implantable lead within said vein using said guide element; and
removing said guide element from said inner lumen of said implantable lead.

20. The method of claim 18, further comprising the step of removing said cardiac motion sensor from said inner lumen of said implantable lead.
21. The method of claim 13, wherein prior to inserting said cardiac motion sensor along said inner lumen of said implantable lead, said method further comprising the step of attaching the implantable lead directly to a cardiac wall.

- 15

28. The cardiac motion sensor unit of claim 27, wherein said cylindrical lead comprises a conductive means for sensing cardiac electrical activity and delivering stimulation to said cardiac wall.
29. The cardiac motion sensor unit of claim 28, further comprising a second cylindrical lead with conductive means for sensing cardiac electrical activity and delivering stimulation to said cardiac wall, said second cylindrical lead concentrically encompassing said cylindrical lead.
30. The cardiac motion sensor unit of claim 29, wherein said cylindrical lead and said second cylindrical lead further comprise a coiled electrically conductive material.
31. The cardiac motion sensor unit of claim 29, wherein said cardiac motion sensor unit further comprises an electrode device for delivering electric stimulation to said cardiac wall.

32. A cardiac motion sensor unit comprising:
acceleration sensing means for providing a signal representative of a cardiac wall movement when disposed at the cardiac wall;
conductor means molded into an elongated insulator body for transmitting said signal representative of movement of said cardiac wall from said acceleration sensing means to an electronic sensing means; and
connector means for electrically linking said conductor means to said electronic sensing means.
33. The cardiac motion sensor unit of claim 32, wherein said acceleration sensing means is disposed within a vein of said cardiac wall.
34. The cardiac motion sensor unit of claim 32, wherein said cardiac wall acceleration sensing means comprises an accelerometer.
35. The cardiac motion sensor unit of claim 32, wherein said conductor means comprises two electrical conductor means molded into an insulate elongate body for transmitting said signal representative of said cardiac wall movement to said electronic sensing means.
36. The cardiac motion sensor unit of claim 32, wherein said insulator comprises a polymer.
37. The cardiac motion sensor unit of claim 32, wherein said acceleration sensing means is disposed within an inner lumen of a cylindrical lead.

38. The cardiac motion sensor unit of claim 37, wherein said cylindrical lead comprises a conductive means for sensing cardiac electrical activity and delivering stimulation to said cardiac wall.

39. The cardiac motion sensor unit of claim 38, further comprising a second cylindrical lead with conductive means for sensing cardiac electrical activity and delivering stimulation to said cardiac wall, said second cylindrical lead concentrically encompassing said cylindrical lead.

40. The cardiac motion sensor unit of claim 39, wherein said cylindrical lead and said second cylindrical lead further comprise a coiled electrically conductive material.